What is claimed is:

1. A composition for the controlled release of an active agent comprising an active agent and a matrix polymer dispersed throughout a matrix having a coating wherein said matrix is the hydration reaction product of an aqueous mixture comprised of:
an inorganic compound capable of undergoing hydration and/or crystallization, and
a matrix polymer,
wherein said inorganic compound of said matrix becomes a solid by hydration and/or crystallization.

2. A composition as in claim 1, wherein said inorganic compound is calcium sulfate hemihydrate.

3. A composition as in claim 1, wherein said matrix polymer is a biopolymer selected from the group consisting of hyaluronic acid, chondroitin sulfate, dextran, dextran sulfate, and polyethylene glycol.

4. A composition as in claim 3, wherein said matrix polymer is dextran sulfate.

5. A composition as in claim 3, wherein said matrix polymer is polyethylene glycol.

6. A composition as in claim 1, further comprising a conditioning agent.

7. A composition as in claim 6, wherein said conditioning agent is selected from the group consisting of calcium stearate, zinc undecylenate, magnesium palmitate, sodium laurate, calcium napthenate, calcium oleate, lauryl and ammonium sulfate.

8. A composition as in claim 6, wherein said conditioning agent is calcium stearate.

9. A composition as in claim 1, further comprising a complexing agent.

10. A composition as in claim 1, further comprising a complexing agent selected from the group consisting of chondroitin sulfate, polyglutamic acid, polyaspartic acid, pamoic acid, polynucleotides, a cationic polypeptide, cyclodextrin, polyoxyethylene alcohol, ester or ether, and defatted albumin.

11. A composition as in claim 1, wherein said coating is a biodegradable poorly water soluble or water insoluble agent suitable for blocking channels of said matrix.

12. A composition as in claim 11, wherein said coating is selected from the group consisting of fibrin, polylactic acid (PLA), poly(lactide-co-glycolide) (PLGA), and polycaprolactone (PCL).

13. A composition as in claim 1, wherein said coating is fibrin.

14. A composition as in claim 11, wherein said coating is selected from the group consisting of triphenylphosphate and sucrose octa-acetate and other acyl sugar derivatives, and acyl glycerols such as glyceryl tristearate.

15. A composition as in claim 1, wherein said coating is a biodegradable viscous water soluble agent suitable for blocking channels of said matrix.

16. A composition as in claim 15, wherein said coating is selected from the group consisting of hyaluronic acid, dextran, dextran sulfate (>100,000 MW), HPMC, chitosan, and chondroitin sulfate.

17. A composition as in claim 16, wherein said coating is dextran.

18. A composition as in claim 16, wherein said coating is HPMC.

19. A composition as in claim 1, wherein said system is in the form of a bead, a fiber, a wafer, a tablet, a sphere, a granule or a cylinder.

20. A composition as in claim 1, wherein said system is in the form of a cylinder and said matrix is dispersed in said coating.

21. A composition as in claim 20 wherein said coating is polycaprolactone (PCL).

22. A composition as in claim 21, further comprising a non-ionic surfactant in said coating.

23. A composition as in claim 21, further comprising active agent in said coating.

24. A composition as in claim 1, comprising calcium sulfate dihydrate, calcium stearate, glycosaminoglycan, and a coating.

25. A composition as in claim 24, wherein said glycosaminoglycan is hyaluronic acid or chondroitin sulfate.

26. A composition as in claim 1, comprising calcium sulfate dihydrate, calcium stearate and hyaluronic acid and fibrin.

27. A composition as in claim 1, wherein said active agent is a medicinal.

28. A composition as in claim 27, wherein said medicinal is a salt.

29. A composition as in claim 27, wherein said medicinal is a protein.

30. A composition as in claim 27, wherein said medicinal is a growth factor.

31. A composition as in claim 27, wherein said medicinal is a drug precursor.

32. A composition as in claim 27, wherein said medicinal is a cytokine or a colony stimulating factor.

33. A composition as in claim 27, wherein said medicinal is an anti-infective selected from the group consisting of gentamicin, clarithromycin, doxycycline, minocycline and lincomycin, amikacin, penicillin, cefazolin, ciprofloxacin, enrofloxacin, norfloxacin, silver sulfadiazine, imipenem, piperacillin, nafcillin, cephalexin, cefoperazone, vancomycin, tobramycin, nystatin, silver sulfadiazine, imipenem, and amphotericin B or salts thereof.

34. A composition as in claim 27, wherein said medicinal is an antibiotic.

35. A composition as in claim 27, wherein said medicinal is an antineoplastic agent.

36. A composition as in claim 27, wherein said medicinal is an anesthetic.

37. A composition as in claim 1, wherein said active agent is a non-medicinal compound.

38. A composition as in claim 37, wherein said non-medicinal compound is selected from the group consisting of a sterilant, a pheromone, a herbicide, a pesticide, an insecticide, a fungicide, an algicide, a growth regulator, a nematicide, a repellent, and a nutrient.

39. A method of producing sustained release of a medicinal in a mammal comprising administering the composition of claim 1 wherein said active agent is a medicinal to said mammal.

40. A method as in claim 39, wherein said administration is by subcutaneous injection.

41. A method of treating an infection in a mammal comprising administering the composition of claim 1 wherein said active agent is an anti-infective to said mammal.

42. A method of producing a composition for the controlled release of an active agent comprising:
(a) mixing an active agent, an inorganic compound capable of undergoing hydration and/or crystallization, and a matrix biopolymer, and
(b) drying the product of step (a) and
(c) coating the product of step (b).

43. A method as in claim 42, wherein said inorganic compound, and a conditioning agent are premixed and then added to said matrix biopolymer.

44. A method as in claim 42, wherein step (c) comprises i) dispersing the product of step (b) into a molten polymer and ii) molding the product of i) into a predetermined shape.